## REMARKS

Claims 1-20 were pending in the present application. Claims 21-22 have been added, leaving Claims 1-22 for consideration in the present amendment. No new matter has been entered as a result of newly added Claims 21-22, support for which can be found on page 8, ll. 10-16 and Example 2, respectively.

Reconsideration and allowance of the pending claims is respectfully requested in view of the following remarks.

Claim Rejection Under 35 U.S.C. §112

Claims 1-20 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants respectfully traverse this rejection.

The Examiner has stated that

> [T]he specification, while being enabling for specifically disclosed mixtures of plasma forming gases, allegedly does not reasonably provide enablement for a method of using a "neutral" plasma or a plasma wherein "an amount of the atomic oxygen species is about equal to an amount of the atomic hydrogen species." The specification allegedly does not enable any person skilled in the art to which it pertains, or with which it most nearly connected, to practice the invention commensurate in scope with these claims.

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The Examiner's basis for the rejection is because it is purportedly known that a mixture of more than 3% of hydrogen in oxygen gas will cause an explosion. The Examiner refers to U.S. Patent Nos. 5,773,201 and 6,323,121 to provide support for

this conclusion. In addition, the Examiner notes that the Applicants' disclosed examples recite plasma formed from a mixture comprising not more than 2.5% of hydrogen, which is less than the amount to be explosive, i.e., 3% hydrogen in oxygen.

It is well settled patent law that a claim is enabled for the purposes of 35 U.S.C. § 112, first paragraph if the specification teaches "those in the art to make and use the invention without undue experimentation." *In re Wands*, 858 F.2d 731, 737 (1988). Moreover, according to MPEP §2164.08, when analyzing the enabled scope of a claim, the teachings of the specification must not be ignored because claims are to be given their broadest reasonable interpretation that is consistent with the specification. Applicants respectfully assert that their claims are consistent with and supported by their specification, and that their specification enables one of ordinary skill in the art to practice their invention without undue experimentation.

Applicants' Figure 1 and the accompanying description in the specification at pages 6 and 7 clearly support and provide a clear and unambiguous definition of neutral plasma in contrast to reducing plasmas and oxidizing plasmas. In a preferred embodiment, neutral plasma is one having about equal amounts of hydrogen atomic species and oxygen atomic species. Applicants respectfully submit that one of ordinary skill in the art of plasma ashing will recognize what is meant by neutral plasma upon reviewing Applicants Figure 1 and upon reading the appropriate sections of the specification.

Moreover, it is submitted that Claims 1-20 are enabled because the specification teaches those skilled in the art to use the corresponding inventions without any additional experimentation, never mind the need for undue experimentation. Applicants note, first, that neutral plasma has been defined and described in detail on pages 6-8, Figures 1-2, and in the examples provided on pages 11-15. Secondly, it is submitted that those skilled in the art, such as, for example, the inventors of the 5,773,201 and 6,323,121 patents, will be able to readily practice the claimed plasma processes since the specification teaches that neutral plasma preferably comprises about equal amounts of hydrogen atomic species and oxygen atomic species. This can be readily ascertained by one of ordinary skill in the art upon review of the gas mixture. Applicants are not obligated to define every imaginable neutral plasma composition or

provide examples to this effect. Also, it is submitted that one of ordinary skill in the art already knows that a hydrogen concentration can be explosive at a certain concentration by virtue of the teachings in the patent nos. 5,773,201 and 6,323,121 as well as other sources, and as such, in view of this knowledge, those of ordinary skill in the art will not require any undue experimentation to make and use the invention as claimed.

Moreover, with regard to the concentration of hydrogen gas believed to be explosive, those of ordinary skill in the art will acknowledge that it depends on many parameters. For example, the data shown in Applicants' Table V supports that plasma can be formed from a gas mixture containing hydrogen gas at a concentration at about 5 percent of the total gas mixture under the proper conditions. The examiner's attention is directed to step 2, which shows a plasma formed from a gas mixture of 5% $H_2/N_2$ at a flow rate of 2000 sccm and $CF_4$ at a trickle flow rate of 5 sccm. No explosion was observed under these conditions. Moreover, Applicants' have noted in the specification at page 8, ll. 16-17, that "although amounts greater than 5 percent can be utilized, safety becomes an issue due to risk of explosion of the hydrogen gas."

Finally, it is submitted that the term "neutral plasma" as defined by the Applicants may include atomic hydrogen species that are generated from hydrogen bearing compounds as well as hydrogen gas. Suitable hydrogen bearing compounds include those compounds that contain hydrogen and generate hydrogen atomic species in plasma forming conditions, e.g., hydrocarbons, hydrofluorocarbons, water vapor, and the like. These compounds at high concentrations, i.e., greater than 3%, are typically not explosive in plasma forming conditions.

In summary, Applicants' claims are consistent with and enabled by the specification. No undue experimentation is required in view of the existing prior art teachings and the level of skill for one of ordinary skill on the art. Accordingly, Applicants respectfully request reconsideration and allowance of Claims 1-20 as well as newly added Claims 21-22.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

It is believed that the response fully complies with the Office Action and places the application in condition for immediate allowance, which action is earnestly solicited.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.



Respectfully submitted,

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